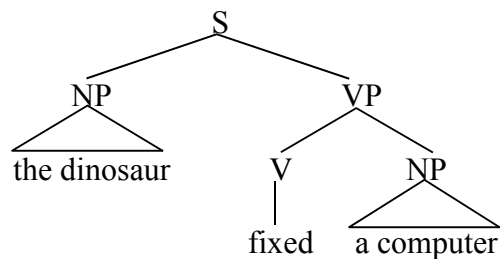# Theoretical Approaches, p. 1

Structural Theory

According to this approach, notions like "subject" are not really part of syntactic description. Syntactic structure is arranged in a hierarchical immediate constituency structure. Distinct properties of subjects and objects are a result of different properties stipulated for different structural configurations: "subject" in an external position, "object" under the projection of the verb, etc. Roughly:

```
                   S
          _____/ _____
        NP                  VP
       /  \              ___/ \___
  the dinosaur          V        NP
                        |       /  \
                      fixed   a computer
```

The exact implementation depends on the theory (this diagram is a rather old non-$\overline{\text{X}}$ version), but the idea is that, for example, the external position is associated with its own unique properties.

A version of this approach is the stated position of Government/Binding (GB) theory and the Minimalist Program (MP). For example, in GB, the special properties of subjects are due to their being outside of the "government" domain of the verb.

An approach like this cannot explain the properties of subjects, because it denies that there is such a thing as a "subject." Instead, it picks one property (the "external" position) and stipulates it. (The external position of the subject thus cannot be explained **in principle** in a theory like this.) Other stipulated properties of the structural position, motivated by nothing other than the need to "explain" other properties of subjects, force all languages to be analyzed as having this kind of configurational structure, even languages where there is reason to believe that there is no "VP" constituent.

Baker, Mark C. (1997) "Thematic Roles and Syntactic Structure." in Liliane Haegeman, ed. *Elements of Grammar*. Dordrecht: Kluwer. pp. 73–137.

Chomsky, Noam (1965) *Aspects of the Theory of Syntax*. Cambridge, Mass.: MIT Press.

Chomsky, Noam (1981) *Lectures on Government and Binding*. Dordrecht: Foris.

McCloskey, Jim (1997) "Subjecthood and Subject Positions." in Liliane Haegeman, ed. *Elements of Grammar*. Dordrecht: Kluwer. pp. 197–235.

Marantz, Alec (1984) *On the Nature of Grammatical Relations*. Cambridge, Mass.: MIT Press.

Grammatical relations

This approach sees syntactic structure as a network of relations between items, rather than as a structure. Our sample sentence could be characterized under such an approach as:

Theoretical Approaches, p. 2

SUBJECT	PREDICATE	OBJECT
the dinosaur	fixed	a computer

The relations are recognized by properties they display. Under one implementation, it is possible for two elements to bear the same relation; for example, in the passive sentence *The computer was put on the desk by the dinosaur* the NP [the computer] is both an object and a subject, and [the dinosaur] is both a subject and a kind of oblique/adjunct (sometimes called "chômeur"). *The computer* and *the dinosaur* are both "subjects." There are thus multiple strata (or levels) of relations in a relational network:

Stratum 1	OBJECT	PREDICATE	SUBJECT
Stratum 2	SUBJECT	PREDICATE	CHÔMEUR
	the computer	was fixed	by the dinosaur

This is the approach taken by various versions of Relational Grammar (RG). A representation of the relational network above would be the "stratal diagram":
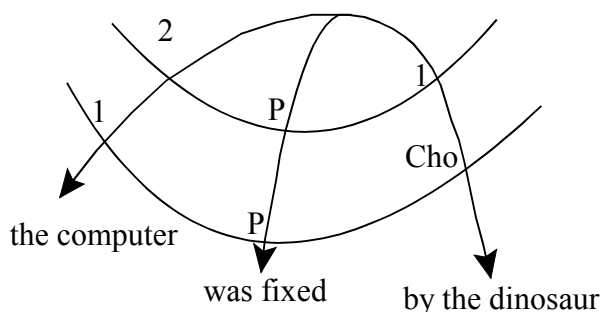
The notion of relation is vague; anything can be a relation. (For example "c-command" is a relation in the grammar, and thus a grammatical relation.) It is hard to see what can follow from it, without a fleshing out of the notion of "relation." Interestingly, Johnson and Postal (1980) include "linear precedence" and "labels" among the relations. They also make the point that GRs are primitive. This emphasizes the point that calling "subject" (or "1") a grammatical relation is vacuous. (The notion of grammatical relation in HPSG is probably similar to that of RG, although the HPSG literature is much less explicit.)

A related concept of grammatical relation is assumed by many researchers in "functionalist" approaches to grammar, such as Van Valin's Role and Reference Grammar (RRG). In such approaches, it is often assumed that a particular grammatical relation "exists" in a particular

Theoretical Approaches, p. 3

language only if it has demonstrable properties **in that language** which cannot be accounted for through a semantic or pragmatic class. Here, too, it is the properties that define the grammatical relation, and there is no sense that they have any real independent status, or content.

Johnson, David E., and Paul M. Postal (1980) *Arc Pair Grammar*. Princeton, N.J.: Princeton University Press. [RG]

Manning, Christopher D., and Ivan A. Sag (1999) "Dissociations Between Argument Structure and Grammatical Relations." in Geert Webehuth, Jean-Pierre Koenig, and Andreas Kathol, eds., *Lexical and Constructional Aspects of Linguistic Explanation*. Stanford: CSLI Publications. [HPSG]

Perlmutter, David M., ed., (1983) *Studies in Relational Grammar 1*. Chicago: University of Chicago Press. [RG]

Perlmutter, David M., and Carol G. Rosen, eds. (1984) *Studies in Relational Grammar 2*. Chicago: University of Chicago Press. [RG]

Postal, Paul M., and Brian Joseph, eds. (1990) *Studies in Relational Grammar 3*. Chicago: University of Chicago Press. [RG]

Van Valin, Robert, and Randy LaPolla (1997) *Syntax*. Cambridge: Cambridge University Press. [RRG]

Grammatical functions

Finally, one can look at syntactic structure as having constituents which are there for a reason: they have functions. For example, in a sentence like:
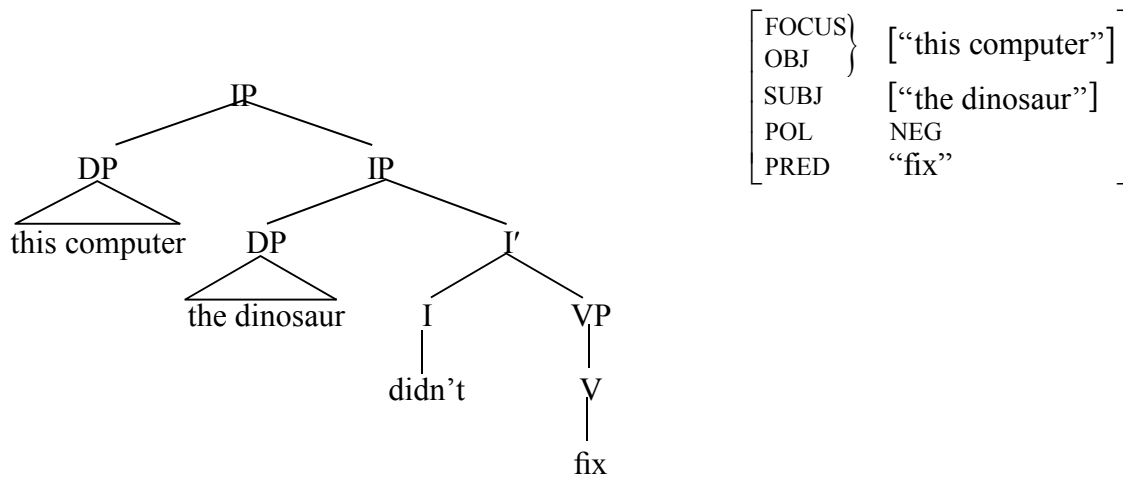
This computer the dinosaur didn't fix.

the fronted nominal serves some discourse-related function (perhaps contrast). In different languages, the same function may be expressed in different ways. We can thus distinguish between form (or constituent structure) and function.

One element might have two different functions. For example, *this computer*, in addition to having the discourse-related function mentioned earlier (which I will refer to as FOCUS), also has the function of expressing one of the arguments of the predicate *fix*, a function I will call OBJ. A rough constituent structure and functional structure for the above sentence would be:

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$$
\begin{bmatrix}
\left.\begin{matrix} \text{FOCUS} \\ \text{OBJ} \end{matrix}\right\} & [\text{``this computer''}] \\
\text{SUBJ} & [\text{``the dinosaur''}] \\
\text{POL} & \text{NEG} \\
\text{PRED} & \text{``fix''}
\end{bmatrix}
$$

```
                    IP
              _____|_____
            DP             IP
           /__\         ___|___
      this computer   DP        I′
                     /__\     __|__
                the dinosaur  I     VP
                              |     |
                            didn't  V
                                    |
                                   fix
```

However (aside from adjuncts) two different elements won't bear the same function. In the passive, for example, *the computer* and *(by) the dinosaur* don't serve the same function. Therefore, assuming that "subject" is a grammatical function, they cannot both bear the function "subject." The grammatical function approach will therefore be monostratal.

This approach is implicit in Lexical-Functional Grammar, although not much work has been done on determining what the functions of the grammatical functions are. It holds the promise that, if we discover what functions are served by the various entities in the syntactic structure, we will be able to explain the properties of, for example, subjects.

Bresnan, Joan, ed. (1982) *The Mental Representation of Grammatical Relations*. Cambridge, Mass.: MIT Press.

Bresnan, Joan (2001) *Lexical-Functional Syntax*. Oxford: Blackwell.

Dalrymple, Mary (2001) *Syntax and Semantics 34: Lexical-Functional Grammar*. New York: Academic Press.

Dalrymple, Mary, Ronald M. Kaplan, John T. Maxwell III, and Annie Zaenen (1995) *Formal Issues in Lexical-Functional Grammar*. Stanford: CSLI Publications.

Falk, Yehuda N. (2001) *Lexical-Functional Grammar: An Introduction to Parallel Constraint-Based Syntax*. Stanford: CSLI Publications.

Falk, Yehuda N. (2006) *Subjects and Universal Grammar: An Explanatory Theory*. Cambridge: Cambridge University Press.